

ABSTRACT

A low-reflective thin-film substrate comprising a transparent glass substrate having formed by sputtering a thin film in multilayer containing no chromium series component and made up of at least one kind of Ni, Fe, Co, Mo, W, Ta, Cu, and Nb as a main constituent form or as an alloy thereof, the thin film having a minimum reflectivity of 0.5% or lower and the optical density of at least 4 or having a minimum reflectivity of 0.1% or lower, a maximum reflectivity of 2.0% or lower, an average reflectivity of 0.3% or lower, and an optical density of at least 4.0, in the visible light region.

The low-reflective thin-film substrate is useful as a black matrix for a color filter substrate of a liquid crystal panel, etc., and is free from an environmental pollution caused by the use of a chromium component as the target material.